ESTTA Tracking number:

ESTTA496712 09/26/2012

Filing date:

# IN THE UNITED STATES PATENT AND TRADEMARK OFFICE BEFORE THE TRADEMARK TRIAL AND APPEAL BOARD

Proceeding	91198483
Party	Plaintiff PsyBar LLC
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Signature	/s/ James J. Kretsch, Jr.
Date	09/26/2012
Attachments	2012.03.09 PART 1 OF 2 [PG 1-18] Affidavit of David C. Fisher with REDACTED Exhibit E.pdf ( 18 pages )(4733591 bytes ) 2012.03.09 PART 2 OF 2 [PG 19-36] Affidavit of David C. Fisher with REDACTED Exhibit E.pdf ( 18 pages )(5548296 bytes )

# IN THE UNITED STATES PATENT AND TRADEMARK OFFICE BEFORE THE TRADEMARK TRIAL AND APPEAL BOARD

	<del></del>	<del></del> -
PsyBar, LLC,		Opposition No.: 91198483
Opposer,		Serial No.: 85095429
v.		
David Mahony, PhD.,		AFFIDAVIT OF DAVID C. FISHER
Applicant.		
		_
STATE OF MINNESOTA	)	
COUNTY OF HENNEPIN	)	

- I, David C. Fisher, having been duly sworn upon oath, deposes and says:
- 1. I am an owner and the Chairman of the Board of PsyBar, LLC, the Opposer in the above-captioned matter and have personal knowledge of all matters contained in my Affidavit.
- 2. PsyBar, LLC ("PsyBar"), is a Minnesota limited liability company that was organized in 1995.
- 3. PsyBar has continuously used the trademark "PsyBar" in commerce since 1995.
- 4. The trademark "PSYBAR" was registered to PsyBar in 1996. A true and correct copy of the Certificate of Registration from the United States Patent and Trademark Office is attached to my Affidavit as Exhibit A.
- 5. PsyBar provides scientific consultation, including litigation strategy and expert witness testimony, to forensic psychologists and psychiatrists, health, disability, and workers' compensation insurers, attorneys, employers and employee assistance programs, and other members of the forensic and legal communities.
- 6. PsyBar is the nation's leading and best-known specialist provider of forensic psychological and psychiatric assessment litigation services.
- 7. One of PsyBar's litigation strategy services is to standardize and provide consistent psychological and psychiatric evaluations throughout the country.

- 8. PsyBar enters into contractor agreements with psychologists and psychiatrists nationwide to examine patients and issue reports on bchalf of PsyBar. PsyBar contracts with hundreds of assessing forensic psychologists and psychiatrists across the United States for this purpose.
- 9. In 2003, the Applicant, David Mahony, signed an agreement with PsyBar to qualify and operate as one of PsyBar's independent medical examiners. A true and correct copy of the 2003 agreement between David Mahony and PsyBar is attached as <a href="Exhibit B">Exhibit B</a> to my Affidavit.
- 10. I first became aware of the "PsyBari" test developed, advertised and promoted by the Applicant David Mahony in 2010.
- 11. I first became aware of a "PSYBARI" mark application after Applicant David Mahony's PSYBARI mark was published for opposition in January of 2011.
- 12. Based on my extensive experience in the forensic consultation field, both PsyBar and the PsyBari test are, or utilize, objective psychological assessment methods to provide assessments of patients in the forensic context.
- 13. PsyBar has continually used the PSYBAR mark since 1995 to identify the services of providing personality and other psychological testing; to provide psychological profiles and psychological record analysis and assessments; to provide custom reports about recommended resources and treatments associated with a defined set of symptoms and concerns; and to provide psychological assessment and litigation services, psychological testing, and psychological testing services.
- 14. There is significant overlap in the consumer base of PsyBar's services and Applicant David Mahony's PsyBari test. For example, health care providers, insurers, employers, employee assistance programs and attorneys rely on PsyBar to identify patients who are appropriate for surgical procedures or may be eligible for other insurance benefits. Also, the majority of PsyBar's forensic evaluations and litigation strategy services include and emphasize objective psychological testing. Applicant's PsyBari test is similar to PsyBar's testing. These types of objective psychological tests are a routine part of forensic assessment conducted by PsyBar for its clients and PsyBar has conducted hundreds of independent medical evaluations for its customers, some focusing on bariatric issues.
- 15. Both PsyBar and the PsyBari test are, or use, objective psychological assessment methods to provide accurate assessments of patients in forensic contexts. The PsyBari is ideally suited to be utilized by mental health professionals as a forensic tool in assessment or litigation strategy services. In fact, in David Mahony's article titled "Standardizing Presurgical Psychological Evaluations with the PsyBari Psychological Test, he states that the PsyBari test is a tool relied upon to determine which patients receive surgical clearance for a bariatric procedure. Legal disputes commonly arise from these medical coverage determinations and often result in lawsuits involving the type of litigation

- support services PsyBar offers. Attached to my Affidavit as <u>Exhibit C</u> is a true and accurate copy of the article referenced in this paragraph.
- 16. PsyBar frequently provides litigation strategy services regarding the evaluation and assessment of sexual abuse, including the preparation of psychological reports and expert testimony. David Mahoney's article titled "Assessing Sexual Abuse/Attack Histories with Bariatric Surgery Patients" and poster presentation titled "Validity of Sexual Abuse Assessments Using the PsyBari," accent the PsyBari's use and significance in these patient populations. The use of the PsyBari in this context would certainly confuse the reader as to whether the PsyBari had any connection or affiliation with PsyBar. Attached to my Affidavit as Exhibit D is a true and accurate copy the article and poster presentation referenced in this paragraph.
- 17. PsyBar is a nationally known psychological specialty provider of fitness for duty examinations. Some of these forensic assessments and evaluations include bariatric patients who are ideal candidates for the PsyBari test.
- 18. Employers and Employee Assistance Programs consistently rely on results of objective psychological tests such as the PsyBari to aide them in making employment-related decisions. PsyBar provides this same pool of clients with employee evaluation and litigation strategy services, which virtually always use psychological tests akin to the PsyBari.
- 19. The use in commerce of a PSYBARI mark that simply adds one vowel to the end of the well-known and established PSYBAR mark is confusingly similar and will be extremely likely to cause consumer confusion as to the source, origin, and endorsement of the PsyBari test. Given the similarity in style and appearance of the two names, one would naturally conclude a direct relationship between the two marks, particularly within the forensic and litigation support services industry where the PsyBar name already enjoys an established presence and visible name recognition. Because these individuals do not engage in independent investigation regarding the source of these various objective tests, it will be assumed that the PsyBari is either a product of or affiliated with PsyBar when no connection would actually exist between the companies, their products and services or their marks.
- 20. The use in commerce of a PSYBARI mark that simply adds one vowel to the end of the well-known and established PSYBAR mark is and will be misleading to the many consumers who are aware of PsyBar's existing reputation and professional services.
- 21. Based on PsyBar's status as the leading and best-known specialist provider of forensic psychological and psychiatric assessment litigation services, PSYBAR constitutes and is considered to be a "famous mark" in the forensic and legal communities.
- 22. The use in commerce of a PSYBARI mark has and will continue to dilute the famous PSYBAR mark and the appreciable goodwill that it has earned in the legal and forensics communities since 1995.

- 23. The Applicant David Mahony's use of the PsyBari name is an improper attempt to capture and capitalize on the established goodwill and reputation of the PsyBar mark, which the Applicant David Mahony has been well aware of since at least since 2003 when he entered into the agreement with PsyBar as set forth in <a href="Exhibit B">Exhibit B</a>.
- 24. Two years later, in 2005, The Applicant David Mahony signed up for PsyBar's on-line education program titled "Psychological and Psychiatric Assessment of Individuals for Disability Insurers." Attached to my Affidavit as <a href="Exhibit E">Exhibit E</a> is a true and accurate copy of PsyBar's administrative training report memorializing this fact.

FURTHER YOUR AFFIANT SAYS NOT.

Date: 3-9-12\_

David C. Fisher, PhD, LP, ABPP

Subscribed and sworn to before me this  $9^{th}$  day of March, 2012.

Notary Public

NICHOLE L. BOWEN
Notary Public-Minnesota
My Commission Expires Jan 31, 2015

Int. Cl.: 42

Prior U.S. Cls.: 100 and 101

# United States Patent and Trademark Office Reg. No. 1,998,368 Registered Sep. 3, 1996

# SERVICE MARK PRINCIPAL REGISTER

# PsyBar

PSYBAR, P.L.C. (MINNESOTA CORPORATION) 5749 NICOLLET AVENUE SOUTH MINNEAPOLIS, MN 554192414

FOR: PROVIDING SCIENTIFIC CONSULTATION TO THE LEGAL COMMUNITY, NAMELY PROVIDING EXPERT WITNESS TESTIMONY, VOIR DIRE AND SCIENTIFIC JURY SELECTION ADVICE, AND LITIGA-

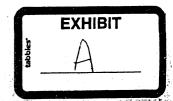
TION STRATEGY SERVICES, IN CLASS 42 (U.S. CLS. 100 AND 101).

FIRST USE 6-22-1995: IN COMMERCE

FIRST USE 6-22-1995; IN COMMERCE 6-22-1995.

SER. NO. 75-003,269, FILED 10-10-1995.

SIRINA TSAI, EXAMINING ATTORNEY



(Fax 952/848-1798) (Phone 952/285-9000) Ainneapolis, MN 55416 4600 Park Glen Road, #330 PsyBar, LLC

# INDEPENDENT CONTRACTOR AGREEMENT PSYBAR, L.L.C.

paliculogical services from independent contractors PsyBar to select doctors in various states to assist them in obtaining psychiatric and for insurance matters or for other contract-related matters. PsyBar clients rely upon legal environments and to evaluate persons of provide professional services, offen certified psychiatrists who are capable of rendering services in potentially adverse PsyBar attempts to recruit a highly qualified group of psychologists and board-

MOVY THEREFORE, the parties agree as follows:

# Provision of Consultation Services SECTION 1

Section 1.2 Maintenance of Licenses. Independent Contractor shall without regard to the financial interests of Independent Contractor or PsyBar's client. Independent contractor will perform services in a fair, honest, and objective (sshion, protocol if any, established and delivered to Independent Contractor by Company Company in a timely, prompt and efficient manner and in accordance with the sinall provide Consultation Services to Company Clients as authorized in writing by Section 1.1 Provision of Consultation Services, Independent Contractor

without restriction, required to provide services in their respective professional fields. maintain, all applicable federal, state and local licenses, certifications, and permits, with Independent Contractor to render Consultation Services to Company Clients maintain, and shall assure that all professionals employed by or under Contractor

ethical standards set by their respective professional associations programs established by Company, and Independent Contractor will abide by the with all utilization management, quality assurance, grevance, or other similar Section 1.3 Quality Assurance, Independent Contractor shall cooperate

regulatory requirements concerning this contract. Section 1.4 Independent contractor will comply with all state laws and

must be authorized by Company in writing prior to the provision of such services for Consultation Services provided by Independent Contractor for PsyBar examinees Section 1.5 Authorization and Notification Requirements. All

payment to be made.



# SECTION 2

# Payment for Consultation Services

Company shall pay Independent Contractor for Consultation Services authorized by Company as specified in specific work authorization agreement that will be given to the Independent Contractor at the start of every case. Fees are negotiable at the beginning of every case.

Independent Contractor shall accept as payment in full for Consultation Services provided to Company Clients such amounts as are paid by Company. In no event shall Independent Contractor bill a Company Client for any fees.

# SECTION 3 Relationship Between Parties

The relationship between Company and Independent Contractor is solely that of Independent Contractor, and nothing in this Agreement or otherwise shall be construed or deemed to create any other relationship, including that of employment, agency or joint venture.

This is a non-exclusive relationship, and PsyBar is free to contract with any other expert for services.

# SECTION 4

Hold Harmless, Indemnification and Liability Insurance
Section 4.1 Independent Contractor Hold Harmless and
Indemnification. Independent Contractor shall defend and hold harmless and
indemnify Company against any and all claims, liabilities, damages, or judgments
asserted against, imposed upon or incurred by Company that arise out of the acts or
omissions of Independent Contractor or Independent Contractor's employees,
agents, or representatives in the rendering of Consultation Services to a Company
Client or Company Clients.

Section 4.2 Independent Contractor Liability Insurance. Independent Contractor shall produce and maintain; (1) medical malpractice or professional liability insurance in the amount of One Million Dollars (\$1,000,000) per occurrence and One Million Dollars (\$1,000,000) aggregate (three million dollars aggregate for psychiatrists), that covers forensic assessment services. Independent Contractor shall also assure that all professionals employed by or under Contractor with Independent Contractor to render Consultation Services to Company Clients produce and maintain such insurance, unless they are covered under Independent Contractor's insurance policies.

# SECTION 5

# Name, Symbols, and Service Marks

Independent Contractor's name, qualifications, curriculum vitae, as well as any and all other information about Independent Contractor's professional career and actions, may be used and released by Company as necessary. Most commonly, PsyBar uses this information to present the Independent Contractor's credentials to prospective clients to promote Independent Contractor's and PsyBar's services.

# SECTION 6 Books and Records

Section 6.1 Privacy of Records. Company may, at its discretion, release all Independent Contractor records to the Company Client to whom the records pertain; however, both Company and Independent Contractor shall maintain the confidentiality of all information regarding Consultation Services in accordance with professional ethics codes, and applicable statutes and regulations. Independent Contractor agrees to abide by all state and federal privacy laws, including those specified by HIPAA. Medical records provided to Independent Contractor shall only be used for the original purpose for which they were intended. E-mails or other electronic communications sent to PsyBar by Independent Contractor containing confidential information shall be encrypted.

# SECTION 7 Noncompetition

Section 7.1 Noncompetition. PsyBar has a significant investment in development of referral sources. By being selected for our panel, the independent contractor agrees that if PsyBar introduces you to a new referral source (one that you have not worked with before forensically) you will not accept forensic business from that client, directly or through another company, for two (2) years after providing services to that referral, except through PsyBar.

# SECTION 8 Miscellaneous

Section 8.1 Entire Agreement. This Agreement constitutes the entire agreement between the parties in regard to its subject matter.

Section 8.2 Governing Law. This Agreement shall be governed by and construed in accordance with the laws of the state of Minnesota.

Section 8.3 Photocopy. A photocopy of this agreement will be considered as valid as the original.

Section 8.4 Malpractice Insurance Independent Contractor authorizes and requests that the professional malpractice insurance company listed below release all confidential information regarding the status of his/her malpractice insurance and complete history of malpractice claims directly to PsyBar LLC. The purpose of this release is to verify my eligibility for inclusion in the PsyBar LLC professional provider network. This consent shall expire after a period of three years from the date of my signature below. Independent Contractor does not require notification each time his/her malpractice insurer releases information to PsyBar LLC. In consideration of this consent, PsyBar and the malpractice insurance carrier is released from any and all liability arising therefrom. A photocopy of this form is as valid as the original:

Section 8.5 Board Certification for MD Independent Contractors. The Independent Contractor, if a medical doctor, certifies that s/ne is a board certified psychiatrist.

Insurance Company Name <u>Ex</u>	ecutive Pisk	Indemnity
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(Important!) Insurance fax numbe	er to send request_	They & not accept Pages
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Section 8.6 Conduct. Ind he/she has ever a) had his/her lice or are being reviewed by any Profession of the regulatory bedy, b) had his/he suspended or revoked, c) received organization, and/or d) had a hospi suspend privileges or invoked prob	ensed revoked or essional Ethics Bo rer-membership-in I any official reprin Ital or other health	dy, State Licensing Board or rany professional-organization hand from any professional care organization reduce or
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[INDEPENDENT CONTRACTOR]

David Marien, Phylo

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Clinical Developments and Metabolic Insights in Total Bariatric Patient Care Volume 7, Number 9

September 2010

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Standardizing Presurgical Psychological Evaluations with the PsyBari Psychological

by DAVID MAHONY, PhD, ABPP

# INTRODUCTION

Test

In 1991, the National Institutes of Health (NIH) recommended that bariatric surgery patients receive presurgical psychological clearance. Since then, surgical associations and health insurance companies have begun to require presurgical psychological evaluations. These evaluations aim to identify patients who are at increased risk for a wide variety of postsurgical psychological, interpersonal, behavioral, and/or medical problems, such as binge eating, substance/alcohol abuse, depression, suicidal ideation, . anxiety, medical adherence, and weight regain. In spite of this

requirement, empirical evidence on psychosocial outcomes to bariatric surgery remains sparse. Researchers are only beginning to understand the multifaceted and long-term responses to bariatric surgery and even less is known about using presurgical psychological profiles to predict surgical outcomes.4 Due to the lack of solid empirical evidence, psychologists have not been able to develop standardized criteria for these evaluations. They use a wide range of assessment procedures and ultimately have to rely on their own judgment when deciding which patients should receive surgical clearance." Continued on Page XX REVIEW

by XXXXX

INTRODUCTION XXXXXX

UPDATE ON AMERICAN COLLEGE OF SURGEONS BARRATHS SURGERY CENTER METMORE

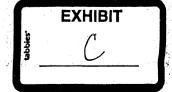
An Interview with Ninh T. Nguyen, MD, FACS

# INTRODUCTION

The American College of Surgeons Bariatric Surgery Center Network (ACS BSCN) Accreditation Program was established in 2005 in response to the national obesity epidemic and the

increasing need to advance safe, highquality care for bariatric surgical patients. The ACS BSCN Accreditation Program offers seven levels of accreditation that encompass a broad range of facilities that are engaged in the practice of high-quality

bariatric surgery in the United States and Canada. These facilities undergo an independent, voluntary, and rigorous peer-reviewed evaluation in accordance with nationally recognized bariatric surgical standards



Continued on Page XX

# Standardizing Presurgical Psychological Evaluations with the PsyBari Psychological Test

by DAVID MAHONY, PhD, ABPP

Bariatric Times. 2010;7(9):X-XX

### ABSTRACT

Bariatric surgery candidates are required to receive psychological clearance before they are eligible for surgery. In spite of this requirement, little is known about psychosocial complications, and even less is known about predicting complications. Psychologists have little empirical evidence for guidance and have resorted to using a wide variety of assessment practices. In an effort to standardize the presurgical evaluation and empirically identify psychosocial contraindications, the PsyBari was created. The PsyBari is a 115-item psychological test that measures constructs relevant to surgical outcomes. It was designed specifically, for bariatric surgery patients and can be updated as new thromation becomes available. Reliability studies indicate that it is a reliable instrument (Cronbach size-1930) (0)940 for mensand 0.927 for women) [Factor analysis results show that both men and women have six underlying factors. Some of these factors are similar for both genders while others are unique. The test can effectively identify subgroups within the bariatric surgery population and titican accurately predict psychosocial markers, such as a history of sexual abuse. As further work is done, the goal of the PsyBari is to identify surgical contraindications, including risk for substance/alcohol abuse's sulcidal ideation, weight regain, and to determine if a patient is motivated enough to complete surgery.

# KEY WORDS

Bariatric surgery, psychological evaluation, PsyBari

# Continued from page 1

# THE CREATION OF THE PSYBARI

Due to the lack of empirical evidence in this area, and the lack of standardized criteria for presurgical psychological evaluations, the PsyBari was created." The PsyBari is a 115-item psychological test designed specifically to evaluate bariatric surgery patients. It is a comprehensive test that assesses psychosocial constructs demonstrated to be, or considered to be, relevant to postsurgical functioning (Figure 1). This includes well-researched constructs, such as depression and binge eating, and those constructs that have not received much research attention, such as surgical anxiety and motivation to complete the surgery.

# AN EVOLVING INSTRUMENT

The PsyBari includes 11 scales as well as validity and response style indicators. It can be revised frequently as researchers identify new empirically validated constructs of interest, clarify the underlying structure of these constructs, and/or determine the utility of these

constructs. For example, when multiple publications demonstrated that carbohydrate cravings can influence postsurgical weight regain. items assessing this craving pattern were ingluded in the test. Conversely, when factor analyses did not reveal anger as a factor for women and publications did not report anger as a postsurgical problem for women, these items were removed from the female version of the test. In this way, as our understanding of the postsurgical psychosocial effects of bariatric surgery progresses, the PsyBari can incorporate the changes. At present, the test is updated every two years. As research efforts in this area ramp up and more users próvide data, revisions could occur as frequently as orice per year.

The test items, scales, and scoring can also be modified for specific subgroups since not all bariatric surgery patients are the same and a meaningful psychological assessment has to recognize these differences. For example, many studies have found differences in the patterns of depression between men

and women with obesity. This includes the finding that women are more likely to report feeling depressed because their weightimpairs their social functioning while men are more likely to report feeling depressed because their weight impairs their physical abilities.8 With these results, the depression scale was individually configured for each gender so that it accurately measures the underlying structures of depression of each gender. Future studies can clarify if response styles, such as social desirability, are involved in these underlying structural differences. In these ways, the PsyBari evolves to incorporate new findings, remove outdated items and/or constructs, and over time, improve its overall utility.

Since the PsyBari was designed specifically for bariatric surgery patients, many of the test's items will give the clinician information that is normally obtained during the clinical interview (Figures 1 and 2). Clinicians can review patient scores. as well as individual responses, and determine which areas need an indepth assessment. For example, there are items that assess the patient's understanding of postsurgical responsibilities, such as being limited to eating four or five ounces of food. Patients that are not knowledgeable about these responsibilities can be further evaluated during the interview and educated, if necessary. It is important to note that although the test does not replace the need for a clinical interview, it can provide guidance to the interviewer as to which areas need to be addressed in depth,

In order to determine how the response styles may influence a patient's results, the PsyBari includes validity indicators including overall level of denial, endorsement of items infrequently endorsed by others, "all-or-nothing" response

style (i.e., patients who predominantly endorse 1's or 5's on a 5-point scale), and the "sometimes" response styles (i.e.; patients who predominantly endorse 3's, or "sometimes," on a 5-point scale). Similar to other psychological tests, clinicians can interpret the PsyBari results with an unclerstanding of how a patient's response style may have influenced the results. For example, if the validity indicators indicate that a patient was not entirely forthcoming (e.g., high levels of denial), the clinician can interpret the test. results with this in mind and further probe for derital during an interview.

For researchers, the test can be customized to fit the needs of their specific topics. Research subjects are often inundated with questionnaires and researchers often do not need to collect data on the entire test. For example, binge eating researchers can administer the binge eating scale items while leaving out other items that assess constructs that do not relate to their research topic, in this way, more data are collected to validate the test and the researcher can use a reliable instrument instead of an adhoc measure.

# RELIABILITY AND VALIDITY

The PsyBari has undergone a series of reliability and validity studies and the results are encouraging. The overall Cronbach's a is 0.930, (0.940 for men and 0.927 for women; Table 1). When looking at the individual subscales, 9 out of 11 have good reliability (a>0.70). Exploratory factor analyses identified six factors for each gender.8 Some factors were common for both genders, some were unique for each gender, and some consisted of mixed constructs. The six factors for women are awareness of eating habits, early life problems due to weight, dysphoric

feelings about weight, weightrelated impairment, surgical anxiety, and guilty feelings related to eating. The six factors for men were physical impairment with depression, awareness of eating habits, early life problems due to weight, interpersonal support with anxiety about weight, anger, and guilty feelings about eating habits.

# IDENTIFYING SUBGROUPS

As can be seen from the exploratory factor analysis, one of the main findings from the validation studies is that male and female patients have different psychological profiles. Additionally,

when looking at presurgical differences between the genders, women are more experienced at dieting, more depressed, more socially anxions, and more likely to report a history of panic attacks. Differences were also found between patients that disclosed a history of sexual abuse as compared to those that did not disclose a history of sexual abuse. Specifically, patients that disclosed a history of sexual abuse were more likely to also disclose a history of physical abuse, psychological treatment, psychiatric treatment, and psychiatric hospitalization. In addition, women were more likely

than inen to also disclose a history of suicidal ideation. Most studies on bariatric surgery patients assume that these patients are a homogeneous group. These results show that men and women have distinct psychological profiles and they also indicate that surgical contraindications may differ depending on gender. In other words, factors that place men at risk for postsurgical problems may not be the same ones that place women at risk.

Other subgroups may also exist within the bariatric suggery population, such as age, race, and age of obesity onset. A recent

finding that female bariatric surgery patients whider age 24 are at risk for postsurgical suicide offers a clue in this area. The implication is that young female patients have a distinct postsorgical complication that needs to be identified during the presurgical evaluation.

# PREDICTIVE ABILITIES

The PsyBari was designed to be able to predict which patients would develop postsurgical psychosocial problems. An intriguing look into its predictive abilities came with the most recent publication. "This study focused on the patients who disclosed a history of sexual abuse. A logistical regression found that for women, a history of physical abuse and suicidal ideation predicted sexual abuse status correctly 82 percent of the time. While for men, a history of psychological problems psychiatric medications, psychiatric hospitalization, and suicidal ideation predicted sexual abuse status correctly 94 percent of the time. These results are intriguing because although the PsyBari was not designed to predict a patient's sexual abuse status, it seems to do this well. Future studies will focus an clarifying the PsyBari's ability to predict specific postsurgical psychosocial problems.

# UNIQUE PSYCHOMETRIC CONCERNS

The results of the validation studies have furthered our knowledge about bariatric surgery patients and helped to identify distinct subgroups. They also identified psychometric parameters that are unique to bariatric surgery patients. By interviewing patients about their experiences when taking the test and conducting missing data analyses and factor analyses, several psychometric concerns have emerged. One of the initial concerns is the length of time it takes to complete the PsyBari. Patients become increasingly restless if the test takes longer than 30 minutes. In fact, when using longer tests, or a combination of tests, patients often respond to items randomly (in order to complete the test faster) or they simply refuse to complete all of the items. Because of this, the PsyBari is calibrated to take approximately 30 minutes to complete although overall completion time ranges from 15 to 60 minutes.

Another concern is the wording of the items. Patients have difficulties with negatively worded or double-negative items (e.g., I have never been in a psychiatric hospital). When queried on their responses, patients report being confused about the wording and often leave the item blank or put an incorrect response. Patients also complain about items that seem to

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have no relevance to weight or a bariatric surgery. For example, when asked if they are depressed, they will often respond no and complain that this is an intrusive question. But when asked if they are depressed about their weight, they are more willing to respond yes. Due to these constraints, the test items are all written simply, directly, and when possible, they relate to the topic of weight, eating habits, or bariatric surgery. This does leave the test vulnerable to social desirability response styles, which will be clarified in future studies.

# **FUTURE DIRECTIONS**

With the results of these and future validation studies, the PsyBari can achieve its ultimate goal of accurately identifying distinct contraindinations for bariatric, surgery for each patient. The test will be able to determine which patients are at risk for specific postsurgical psychological, behavioral, interpersonal, and medical adherence problems. This includes determining which patients are unlikely to go through with surgery and which ones will experience significant weight regain.

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- differences in bariatric surgery candidates. *Obes Surg.* 2008;18(5):607-610.
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### FUNDING:

There was no funding for the development of this article.

# FINANCIAL DISCLOSURES:

The author reports no conflicts of interest relevant to the content of this article.

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# RESEARCH ARTICLE

# Psychological Gender Differences in Bariatric

# Surgery Candidates

6 David Mahony

Received: 22 May 2007 / Accepted: 29 June 2007

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### Abstract

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Background Over 177,000 bariatric surgeries were performed in 2006. Most patients are required to receive presurgical psychological clearance, although there are no empirically validated psycho-surgical risk factors. In an effort to establish normative data on suspected risk factors, the present study was conducted to determine if males and females differ on psycho-surgical risk factors. Methods Subjects consisted of 361 consecutive bariatric surgery candidates undergoing a psychological evaluation in a private practice setting. They were administered the PsyBari, a test that detects and measures psycho-surgical risk factors, and the Beck Depression Inventory (BDI-2). Results The results indicate that males have significantly higher BMIs than females (p=0.035). Females have tried significantly more diets than males (p < 0.000). Females are significantly more likely to report a history of depression than males (p < 0.000). Females received significantly higher scores on the PsyBari Depression Index than males (p < 0.000). Females received significantly higher BDI-2 scores than males (p < 0.001). Females are significantly more likely to report a history of anxiety than males (p=0.004). Females received significantly higher scores on the PsyBari Social Anxiety Index than males (p=0.038).

Conclusion The results indicate that males and females

differ significantly on suspected psycho-surgical risk

factors. Assessments of bariatric surgery candidates should

recognize that males and females have different baselines

for psycho-surgical risk factors. Further research on

bariatric surgery candidates should report results separated by gender.

Keywords Psychological test · Bariatric surgery

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Depression · Anxiety

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# Introduction

Over the past decade, bariatric surgery has become a popular treatment for morbidly obese patients. In 2006 alone, an estimated 177,000 patients received this treatment [1]. The procedure requires patients to complete a battery of presurgical exams, and most surgeons require a psychological evaluation. Formal referral questions for the psychological evaluation are provided to psychologists by surgical organizations in an effort to help them identify patients who are considered at risk for postsurgical psychological or behavioral problems (PSPBPs) [1]. These standard referral questions are not based on any empirical evidence and may or may not be effective in determining which patients are at risk for PSPBPs.

Since the requirement for psychological evaluations on bariatric surgery candidates (BSC) has been established, a great deal of research has been conducted in an effort to identify psychosocial risk factors [2, 3]. These efforts have begun to tease apart suspected risk factors, although initial findings suggest that factors previously considered to place a patient at risk are not necessarily problematic.

For example, it was initially thought that BSCs who scored high on depression scales would be at risk for PSPBPs because symptoms of depression would interfere with postsurgical compliance, motivation, and coping skills. Studies have found that, although a large percentage of BSCs experience presurgical depression, these symptoms

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usually improve postsurgically without any PSPBPs [4, 5]. In fact, a study done by Averbukh et al. [6] found a negative correlation between presurgical depression scores and postsurgical weight loss. Instead of depression interfering with postsurgical functioning, there may be a rebound effect where higher levels of presurgical depression predict better postsurgical functioning.

Similarly, a history of sexual abuse was considered to be a risk factor, especially for female patients. The belief was that these patients want to avoid sexual attention because it reminds them of past sexual trauma. So, they use their weight as a means to protect themselves from sexual attention. Once they lose weight, they will receive more sexual attention and experience increased anxiety due to the reminder of the past sexual trauma. In spite of these assumptions, studies have found no increased anxiety or PSPBPs for this population [1,48].

These findings, and others, leave the psychological examiner in the position of having to grant or deny surgical clearance without having much empirical criteria as to which patients will experience PSPBPs. In fact, the assessment practices of mental health professionals vary widely for bariatric surgery, with no established standards [9, 10].

In an effort to address this problem and standardize the bariatric surgery psychological evaluation, the PsyBari was created [11]. The PsyBari is a psychological test that measures variables considered to be important in identifying patients at risk for PSPBPs. It is a 217-item paper-andpencil test that scores BSCs on multiple indices related to psychological and behavioral variables considered to be important in bariatric surgery psychological evaluations. This includes a depression and social anxiety index. Using the PsyBari, a wide range of potential psychosocial risk factors can be assessed rapidly. The examiner can review individual items and standardized T scores on each index.

As part of the initial standardization process, presurgical norms have to be established for the PsyBari. This includes determining in what ways BSCs are a heterogeneous population. Previous research on the psychosocial variables considered to be important in bariatric surgery often group the patients together into one homogenous group [5, 13]. This is in contrast to a wealth of research that exists on psychosocial variables involved in nonsurgical obese patients, i.e., obese patients who are not considering bariatric surgery. These researchers have shown that nonsurgical obese patients are a heterogeneous population, with one of the most frequently cited differences being gender. In fact, the data differentiating nonsurgical obese males and females is so extensive that researchers usually present and discuss these populations separately [14, 15]. For example, researchers have consistently found that nonsurgical obese females report higher levels of depression and social anxiety than nonsurgical obese males [14, 16].

It would be meaningful to know if BSCs also differ on variables such as gender. This would allow examiners to evaluate patients' psychosocial variables more accurately. Put another way, it is important to know what role gender plays in presurgical psychological evaluations. We cannot simply extrapolate findings of nonsurgical obese populations onto BSCs because these two populations differ in important ways. For example, BSCs have to have a BMI of 35 or above to be eligible for bariatric surgery, whereas subjects in nonsurgical obesity research may have lower BMIs.

The present study is focused on determining if gender subgroups exist within the BSC population as they do with nonsurgical obese populations. Differentiating BSCs on psychological and behavioral variables is important because it may indicate that they have different norms and different risk factors for baniatric surgery.

In specific, the present study hypothesizes that, consistent with the findings in nonsurgical obesity research, female BSCs will report higher levels of depression and social anxiety than male BSCs. This is predicted to be independent of BMI, and it is hypothesized that male BSCs will report higher BMIs than female BSCs. The study limits the number of PsyBari indices to those that have been found to show gender differences in nonsurgical obese populations in an effort to limit the likelihood of a type I error. The present study also hypothesizes that female BSCs will have more experience dieting and more experience with psychological and psychiatric treatment. These variables were included because their importance is in assessing dieting experience and willingness to acknowledge and address psychological problems.

# Materials and Methods

A power analysis was calculated using an effect size of 0.5, alpha level set at 0.05, and power set at 0.95, resulting in a sample size of 176 subjects [17]. A total of 361 records were available from subjects who underwent psychological evaluations for bariatric surgery in a private practice setting from August 2002 to September 2006. This included 244 (67.6%) females and 117 (32.4%) males. Ages ranged from 19 to 70, with a mean age of 41.7 (SD=10.8). Subjects identified their ethnic group as Caucasian (64.6%), African-American (13.2%), Hispanic (9.9%), Asian (1.1%), Native-American (0.5%), and other (4.7%).

Subjects were referred from two local bariatric surgery programs. They were administered the PsyBari, a test that measures weight-related psychological and behavioral variables considered to be relevant in predicting postsurgical performance, and the Beck Depression Inventory 2 (BDI-2) [18]. Subjects then completed a 1-h semistructured

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interview. The results of the PsyBari and BDI-2, along with the interview results, determined whether or not the subject received psychological clearance.

The data were analyzed for normality using the Shapiro-Wilk test [19]. Most of the data were positively skewed and did not meet criteria, for normal distribution. This is consistent with BSCs' tendency to minimize psychological symptoms. Due to these results, nonparametric tests, the Mann-Whitney and Chi Square, were used. The alpha rate was set at 0.05.

# Results

185 Regarding weight and eating habits, men reported signifi-186 cantly higher BMIs (M=49.20, SD=7.84) than women 187. (M=47.23, SD=7.32), U=10.927.00, p=0.035 (two tailed). 188 Women have tried significantly more diets (M=7.75, 189 SD=4.08) than men (M=5.48, SD 3.18), U=8,483.00, 190 p<0.000 (two-tailed).

For reported levels of depression, women were significantly more likely to report a history of depression than men (45.7% for women vs. 17.4% for men),  $X^2(4, N=347)=26.624$ , p<0.000. On the PsyBari Depression Index, women received significantly higher scores (M=10.91, SD=5.15) than men (M=8.01, SD=5.10), U=4,447.500, p<0.000 (two tailed). On the BDI-2, women also received significantly higher scores (M=13.73, SD=9.94) than men (M=9.74, SD=7.72), U=8,211.000, p<0.001 (two tailed).

For reported levels of anxiety, women were more likely to acknowledge a history of anxiety than men (23.2% of women vs. 10.4% of men),  $X^2(4, N=348)=8.133$ ,  $\rho=0.004$ . On the PsyBari Social Anxiety Index, women scored significantly higher (M=6.77, SD=4.52) than men (M=5.58, SD=4.39), U=5.959.000,  $\rho=0.038$ .

In regards to mental health treatment, women were significantly more likely to acknowledge a history of psychotherapy than men (36.5% of women vs. 15.9% of men)  $X^2(4, N=346)=15.373$ , p<0.000. Women were significantly more like to acknowledge taking psychiatric medicine in the past than men (33% of women vs. 14.2% of men)  $X^2(4, N=346)=13.813$ , p<0.000.

## 213 Discussion

- The results show that, similar to nonsurgical obese populations, BSCs should not be considered a homogenous population. BSCs differ significantly, based on gender, on
- population. BSCs differ significantly, based on gender, on 217 many psychosocial variables routinely measured in psycho-
- 218 logical assessments. Specifically, female BSCs were signif-
- 219 icantly more likely to acknowledge a history of depression

220 and social anxiety. Female BSCs received significantly

higher scores on the PsyBari depression and social anxiety indices. Female BSCs also received significantly higher BDI-2 scores. Female BSCs admitted to receiving psychological and psychiatric treatment more than men. Female BSCs also had significantly more diet history than male BSCs. These differences are independent of weight because it was found that male BSCs have significantly higher BMIs than female BSCs.

The results show that gender is an important variable when assessing BSCs. Males and females have different baselines on psychosocial variables, and individual BSCs should be compared to gender-based norms. Future research can determine if these gender differences persist after bariatric surgery and weight loss. Males and females may have different PSPBPs; different eating habits; different social adjustments; and, overall, different reactions to the surgery in other words, males may have different wisk factors, than females. These differences need to be taken into account during presurgical psychological evaluations.

As more information is obtained on BSCs, future research will be needed to determine if separate norms should be established for other psychosocial variables such as SES, race/ethnicity, and age. Establishment of these norms will assist future attempts at determining and measuring variables that place BSCs at high risk for PSPBPs.

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Journal of Child Sexual Abuse, 19:469–484, 2010 Copyright © Taylor & Francis Group, LLC ISSN: 1053-8712 print/1547-0679 online

DOI: 10.1080/10538712.2010.496713



# TREATMENT AND PRACTICE ISSUES

# Assessing Sexual Abuse/Attack Histories with Bariatric Surgery Patients

# DAVID MAHONY

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in the find game i territy was be the more at indee on the before the find and a fit that the program in any in the pro-

This study assessed sexual abuse/attack bistories in 537 bariatric surgery patients using the PsyBari. The prevalence rates found were lower (15.5%, 19.3% of women, 5.2% of men) than other studies that used bariatric surgery patients but consistent with studies that used nonbariatric obese subjects. Furthermore, bariatric surgery patients who disclosed sexual abuse/attack were more likely to disclose physical abuse, psychological problems, psychological treatment, psychiatric medication, and psychiatric hospitalization. Among bariatric surgery patients who disclosed sexual abuse/attack, females were more likely to disclose suicidal ideation. A logistic regression found that for females, physical abuse and suicidal ideation reliably predicted abuse/attack status. For males, psychological problems, psychiatric medications, hospitalization, and suicidal ideation, reliably predicted abuse/attack status.

KEYWORDS psychological assessment, bariatric surgery, sexual abuse, PsyBari

In the United States, over 200,000 patients receive bariatric surgery each year (American Society for Metabolic & Bariatric Surgery [ASMBS], 2010). Health insurance companies, surgical associations, and advisory committees have recommended or required, that bariatric surgery patients (BSPs)

Submitted 24 October 2009; revised 8 April 2010; accepted 9 April 2010.

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receive presurgical psychological evaluations (e.g., ASMBS, 2010; National Institutes of Health [NIH], 1991). These evaluations aim to identify patients who are at increased risk for a wide variety of postsurgical psychosocial problems such as depression, anxiety, substance/alcohol abuse, suicidal ideation, and even spousal jealousy (e.g., Fabricatore, Crerand, Wadden, Sarwer, & Krasucki, 2006). Presurgical evaluations also attempt to determine if the patients can adhere to strict postsurgical medical, nutrition, dietary, and exercise regimens.

After the initial NIH recommendations were made in 1991, researchers began to study the psychological characteristics of BSPs. One of the goals was to determine if postsurgical psychosocial problems could be predicted from presurgical psychological profiles (e.g., Van Hout, Verschure, & Van Heck, 2005). An early focus in this area was on patients with a history of sexual abuse/attack since sexual abuse/attack was already binked to the development of obesity as well as a wide range of other psychosocial problems (e.g., Gustafson & Sarwer, 2004; Williamson, Thompson, Anda, Dietz, & Felitti, 2002). Researchers surmised that patients with a history of sexual abuse/attack would have difficulties adjusting to the increased sexual attention they receive as they lose weight. Efforts began to assess the prevalence rates of sexual abuse/attack in BSPs and to determine if those with a history of sexual abuse/attack were at increased risk for postsurgical problems (e.g., Briere & Elliot, 2003; Finkelhor, Ormrod, Turner, & Hamby, 2005; Noll, Zeller, Trickett, & Putnam, 2007).

As part of this effort, studies were conducted to determine if sexually abused/attacked patients had less weight loss after surgery when compared to patients who were not sexually abused/attacked. However, no long-term, postsurgical weight loss differences were found (e.g., Buser, Dymek-Valentine, Hilburger, & Alverdy, 2004; Clark, Hanna, Mai, Graszer, & Krochta, 2007; Grilo, White, Masheb, Rothschild, & Burke-Martindale, 2007; Larsen & Geenen, 2005). Researchers then began to look for well-known psychological sequelae of sexual abuse/attack, such as depression, in BSPs with a history of sexual abuse/attack. In this effort, it was found that BSPs with a history of sexual abuse/attack had psychological sequelae similar to that of other sexual abused/attacked populations. In fact, when compared to BSPs without a history of sexual abuse/attack, they had higher levels of pre- and postsurgical depression; higher rates of presurgical physical, verbal, emotional abuse and neglect; and more postsurgical psychiatric admissions (e.g., Buser et al., 2004; Clark et al., 2007; Grilo et al., 2005; Grilo et al., 2007; Oppong, Nickels, & Sax, 2006). These findings and others (e.g., Carpenter, Hasin, Allison, & Faith, 2000; Omalu, et al., 2007; Paolucci, Genuis, & Violato, 2001) suggest that although a history of sexual abuse/attack does not impair postsurgical weight loss, it is associated with problems, such as depression, which may impair postsurgical functioning.

# ASSESSING SEXUAL ABUSE/ATTACK: METHODOLOGICAL PROBLEMS

As part of the effort to determine the effects of sexual abuse/attack on bariatric surgery outcomes, researchers were confronted with the complexities involved in accurately assessing whether or not patients had a history of sexual abuse/attack. In fact, studies reported such a wide range of sexual abuse/attack prevalence rates in BSPs, that either the "true" prevalence rates were different for each study or methodological differences were causing patients to disclose sexual abuse/attacks at different rates. For example, a study done by Gustafson and colleagues (2006), using BSPs, reported a sexual abuse/attack prevalence rate of 16% (17% for females, 11.5% for males), while Grilo and colleagues (2005) reported a rate of 32% (33.3% for females). Table 1 compares the reported prevalence rates of sexual abuse/attack from studies that used BSPs as well as studies that used non-BSPs.

One reason for the discrepancy of these results is the lack of standardized assessment techniques. When assessing sexual abuse/attack histories in BSPs, researchers have used divergent techniques, including face-to-face interviews (Clark et al., 2007), questionnaires (Gustafson et al., 2006), single questions about sexual abuse/attack (Larsen & Geenen, 2005), multiple questions covering a wide range of sexual abuse/attack experiences (Gustafson et al., 2006), use of instruments with known psychometric properties (Gustafson et al., 2006), ad hoc research instruments (Clark et al., 2007), assessments that include adult sexual attacks (Larsen & Geenen, 2005), and assessments that limit the sexual abuse/attack definition to childhood experiences (Clark et al., 2007).

**TABLE 1** Sexual Abuse/Attack Prevalence Rates in Bariatric Surgery and Nonbariatric Surgery Populations

			Р	revalence rate	:s
Authors	Ν	Subjects	Total	Females	Males
Grilo et al. (2005)	340	BSP	32.00%	33.30%	24:10%
Grilo et al. (2006)	137	BSP	32.00%	N/R	N/R
Wildes et al. (2008)	230	BSP	31.00%	36.10%	5.10%
Clark et al. (2007)	152	BSP	27.00%	N/R	N/R
Oppong et al. (2006)	258	BSP	26.70%	29.61%	12.24%
Larsen & Geenen (2005)	157	BSP	23.00%	N/R	N/R
Williamson et al. (2002)	1317	Non-BSP	21.70%	N/R	N/R
Gustafson et al. (2006)	567	BSP	16.00%	17.00%	11.50%
Briere & Elliott (2003)	1442	Non-BSP	15.12%	32.30%	14.20%
Finkelhor et al. (2005)	2030	Non-BSP	8.20%	9.60%	6.70%

Note: BSP = bariatric surgery patients; N/R = not reported.

The difficulties in accurately assessing sexual abuse/attack prevalence rates are not limited to research using BSPs. Attempts to measure sexual abuse/attack prevalence rates in other populations also report a range of prevalence rates due to methodological differences. For example, Gustafson and Sarwer (2004) conducted a literature review of sexual abuse/attack prevalence rates for obese, non-BSPs, and found ranges of 11% to 32% for females and 4% to 14% for males. They concluded that more precise estimates are impossible to establish since researchers have used divergent assessment techniques.

Literature reviews and national surveys of prevalence rates of sexual abuse/attack not specific to BSPs or obese subjects report similar conclusions. Using results of nationwide surveys, Finkelhor and colleagues (2005) reported a sexual abuse/attack prevalence rate of 8.2% (9.6% for females, 6.7% for males), while Buiever and Elliot (2003) reported a rate of 15.12% (32.3% for females, 14.2% for males). These studies also reported that prevalence rates varied due to the use of different assessment techniques (telephone interviews versus mailed questionnaires).

Several studies were conducted to clarify the methodological problems involved in assessing the prevalence rate of sexual abuse/attack. Haugaard and Emery (1989) found that prevalence rates differed based on the studies' definitions of sexual abuse/attack. Gorey and Leslie (1997) reviewed 16 cross-sectional surveys and found that differences in sexual abuse/attack definitions and response rates accounted for 50% of the observed variability in prevalence estimates. Fergusson, Horwood, and Woodward (2000), using a test-retest design, with a latent class analysis, found the best fitting model suggested that false positives did not occur, but subjects that were sexually abused/attacked had a false negative rate of 50%. These findings suggest that reported prevalence rates for sexual abuse/attack are heavily dependent on methodology and subject to high false negative rates.

# ASSESSING SEXUAL ABUSE/ATTACK: PATIENT VARIABLES

Part of the difficulty of accurately assessing sexual abuse/attack prevalence rates are patients' feelings, beliefs, and assumptions about disclosure. Haugaard and Emery (1989) identified some of the reasons that patients do not disclose sexual abuse/attack, including embarrassment, fear of stigmatization, and avoidance of dysphoric memories. In fact, clinicians have long known that the disclosure of sexual abuse/attack is a delicate and complicated matter that takes time and has to be handled with tact (e.g., Paine & Hansen, 2001). In psychotherapy, these disclosures can unfold



over long periods of time and require a strong therapeutic alliance. In contrast, presurgical evaluations have limited time where it is often difficult to establish the level of trust and rapport needed for this type of disclosure. In addition, disclosing sexual abuse/attack in presurgical evaluations differs in an important way from other settings. Specifically, BSPs may be concerned that if they disclose a history of sexual abuse/attack they will not receive psychological clearance for surgery.

Anecdotally, some BSPs have expressed concerns about disclosing sexual abuse/attack. They do not see how it is relevant to surgery, they are concerned that disclosure could lead to surgical rejection, and they feel that the topic is unnecessarily intrusive. Some patients see no benefit in disclosing sexual abuse/attack while at the same time they see no harm in withholding such information. Given these dynamics, it can be difficult to establish an atmosphere in presuggical evaluations, where patients feels safe enough to disclose a history of sexual abuse/attack. For this reason, it is probable that many patients withhold disclosure of sexual abuse/attack during these evaluations.

It is important to note that most of the research using BSPs, reported previously, does not report the details of how the assessment of sexual abuse/attack was introduced to the patients. Were the patients given any explanation of why sexual abuse/attack was being assessed and how this information might affect surgical clearance? The two studies that did report this information (Oppong et al., 2006; Wildes, Kalarchian, Marcus, Levine, & Gourcoulas, 2008) informed the patients that the assessment of sexual abuse/attack was independent of surgical clearance. Interestingly, these two studies also reported prevalence rates of sexual abuse/attack that were higher than most other studies using BSPs (26.7% and 31% respectively). These results raise concerns that BSPs may feel safer disclosing sexual abuse/attack only after they are specifically assured that it will not affect surgical clearance.

# **CURRENT STUDY**

The current study seeks to determine the sexual abuse/attack prevalence rate in BSPs using the PsyBari, a psychological test designed specifically for bariatric surgery evaluations (Mahony, 2010a). The attained rates were compared to previously reported studies that used BSPs as well as to studies using obese, non-BSPs and studies using the general population. Additionally, similar to previous findings, it is hypothesized that BSPs who disclose a history of sexual abuse/attack will be more likely to disclose histories of physical abuse, psychological problems, psychological treatment, psychiatric treatment, psychiatric hospitalization, and suicidal ideation (Clark et al., 2007; Grilo et al., 2005; Gustafson et al., 2006; Wildes et al.,

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2008). These factors were then entered into a logistic regression equation to determine their ability to predict sexual abuse/attack status.

# **METHOD**

# Procedure

Institutional review board approval was received for this study. This was a retrospective study that used existing data, so consent was not obtained from patients. Patients seeking psychological clearances for bariatric surgery were administered the PsyBari in a health clinic, surgeon's office, hospital office, or private practice setting. They were given the PsyBari by a receptionist or psychologist and asked to complete the test in the waiting area. They were given notother verbal-or wenterninstructions otherwise and the second the test.

# Measure

The PsyBari is a psychological test designed specifically for bariatric surgery evaluations (Mahony, 2010a). It measures psychological and behavioral variables considered to be important in identifying patients at risk for post-surgical psychosocial problems. It is a paper and pencil test that collects information on the patients' physical and mental health, substance/alcohol abuse, diet, and weight loss histories. The PsyBari items used for the current study are shown in Table 2. The item assessing sexual abuse/attack was worded to include abuse and attack since feedback from patients indicated that they considered the word abuse alone to only include childhood sexual abuse.

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The PsyBari includes statements that encourage patients to be honest when answering test items and to assure them that acknowledging psychological concerns will not automatically disqualify them from bariatric surgery. For example, before answering the questions regarding their mental health history, the patients were provided with written instructions regarding potential disclosures.

# TABLE 2 PsyBari Items

Have you ever had any emotional or psychological problems such as depression or anxiety?

Have you ever been treated by a psychologist, psychiatrist, marriage counselor, or social worker?)

Have you ever taken medication for anxiety, depression, stress, or any other psychological problem?

In the past, I was physically abused by a parent, spouse, or partner.

In the past, things were so bad I thought about suicide.

I don't talk about it, but I was the victim of sexual abuse/attack.

In the past, I was treated in a psychiatric hospital.

# Subjects

Subjects consisted of 738 consecutive BSPs who were administered the PsyBari between October of 2006 and October of 2009. Data from 12 (1.62%) female patients were not included because they did not answer the sexual abuse/attack item. The reason that these patients did not answer this item is difficult to determine although it is not necessarily indicative of sexual abuse/attack status (Mahony, 2010b). Additionally, data from 153 (20.73%) patients were not included because English was not their primary language and they indicated difficulties reading and/or understanding the test. Data on 573 patients were available for analysis, including 419 females (73.12%) and 154 males (26.88%). This included 381 Caucasians (66.49%), 102 African Americans (17.80%), 68 Hispanic (11.87%), and 22 classified as other race (3.84%). Ages ranged from 17 to 67, M = 40.14.

# RESULTS

Prior to the statistical analyses, data entry was hand checked for accuracy. Data were then separated by gender and examined through various Statistical Package for Social Sciences (SPSS) programs for missing values and fit between their distributions and the assumptions of multivariate analysis (SPSS, 2003). All statistical analyses were done separated by gender since sexual abuse/attack prevalence rates differ between genders (e.g., Wildes et al., 2008), and psychological variables relevant to sexual abuse/attack sequelae, such as depression, also differ between genders (Mahony, 2008).

Shapiro-Wilks tests for normality were significant for all variables, on all tests (p < .001). Since the variables are all dichotomous, transformation is difficult, so statistical analyses robust to normality violations, chi-square and logistic regression, were used (Tabachnick & Fidell, 2007).

# Sample Size Analysis

A sample size analysis for nonparametric tests was conducted using GPower with d=0.2,  $\alpha=0.05$ , power  $(1-\beta)=0.95$ , and df=1 resulting in a sample size of 325 (Erdfelder, Faul, & Buchner, 1996). Given that there were 419 females and 154 males, the statistical tests for females are overpowered while those for males are underpowered.

# Sexual Abuse/Attack Prevalence Rates

Using the PsyBari, the overall prevalence rate of sexual abuse/attack obtained was 15.5%. For females, 81 out of 419 (19.3%) disclosed a history of

sexual abuse/attack, while for males, 8 out of 154 (5.2%) disclosed a history of sexual abuse/attack.

# Chi-Square Analyses for Females

Females who disclosed a history of sexual abuse/attack were significantly more likely than females that did not disclose abuse/attack to also disclose histories of physical abuse,  $X^2(1, N=417)=57.117$ , p<001, psychological problems,  $X^2(1, N=417)=11.272$ , p=.001, psychological treatment,  $X^2(1, N=417)=14.088$ , p<.001, psychiatric medication,  $X^2(1, N=418)=13.678$ , p<.001, psychiatric hospitalization,  $X^2(1, N=416)=9.382$ , p=.002, and suicidal ideation,  $X^2(1, N=415)=36.857$ , p<.001

# Chi-Square Analyses for Males

Males who disclosed a history of sexual abuse/attack were significantly more likely than males that did not disclose abuse/attack to also disclose a histories of physical abuse,  $X^2(1, N=154)=7.597$ , p=.006, psychological problems,  $X^2(1, N=153)=10.276$ , p=.001, psychological treatment,  $X^2(1, N=153)=6.073$ , p=.014.), psychiatric medication,  $X^2(1, N=153)=10.396$ , p<.001, and psychiatric hospitalization,  $X^2(1, N=153)=23.185$ , p<.001. They were not more likely to disclose a history of suicidal ideation,  $X^2(1, N=153)=3.037$ , p=.081 (Table 3).

TABLE 3 Chi-Square Results

	Sex abuse	No sex abuse	$N^{2}$	p
Females				
History of Physical Abuse	48 (59.3%)	61 (18.2%)	.57.117	.000
History of Psychological Problems	64 (79.0%)	198 (58.9%)	11.272	.001
History of Psychological Treatment	51 (63.0%)	134 (39.9%)	14.088	.000
History of Psychiatric Medication	47 (58.0%)	120 (35.6%)	13.678	.000
History of Suicide Ideation	38 (47.5%)	54 (16.1%)	36.857	.000
History of Psychiatric Hospitalization	13 (16.3%)	20 (6.0%)	9.382	002
Males				to the
History of Physical Abuse	4 (50.0%)	20 (13.7%)	7.597	.006
History of Psychological Problems	8 (100%)	61 (42.1%)	10.276	.001
History of Psychological Treatment	6 (75.0%)	47 (32.4%)	6.073	.014
History of Psychiatric Medication	8 (100%)	44 (30.3%)	16.396	.000
History of Suicide Ideation	3 (37.5%)	21 (14.5%)	3.037	.081
History of Psychiatric Hospitalization	4 (50.0%)	7 (4.8%)	23.158	.000

# Logistic Regression Analysis for Females

A direct logistic regression analysis was performed for females with sexual abuse/attack as the outcome with six psychosocial predictors: histories of physical abuse, psychological problems, psychological treatment, psychiatric medicine, psychiatric hospitalization, and suicidal ideation. Eleven cases with missing values were deleted from the analysis, leaving 408 cases.

A test of the full model with all six predictors against a constant only model was statistically significant,  $X^2(6, N=408)=63.638$ ,  $p_i < .001$ , indicating that the predictors, as a set, reliably distinguished between female patients with and without a history of sexual abuse/attack. Table 4 shows regression coefficients, Wald statistics, and odds ratios for each of the six predictors.

The Wald criterion indicates that histories of physical abuse and suicidal ideation significantly predicted sexual abuse/attack status. A follow-up stepwise logistic regression was conducted with physical abuse and suicidal ideation entered in step one followed by psychological problems, psychological treatment, psychiatric medication, and psychiatric hospitalization entered in step two. As expected, the first step was significant  $X^2(2, N = 408) = 61.140$ , p < .001 against the model. Adding the second block

TABLE 4 Logistic Regression Results for Females

						interval	nfidence for odds tio
	В	S.E.	Wald X <sup>2</sup> test	Sig	Odds ratio	Lower	Upper
History of Physical Abuse	1.483	.292	25.781	.000	4.405	2.485	7.808
History of Suicidal Ideation	.980	.314	9.754	.002	2.664	1.440	4.927
History of Psychiatric Medication	315	.370	.724	395	.730	.353	1.507
History of Psychological Problems	- 200	395	.256	.613	.819	.378	1.775
History of Psychological Treatment <sup>(C)</sup>	033	347	.009	.925	.968	490	1.911
History of Psychiatric Hospitalization	008	.455	.000	.985	.992	.407	2.418
(Constant)	-2.013	.301	44.672	.000.	.134		<u>.</u>

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did not improve the results  $X^2(4, N = 408) = 2.497$ , p = .645. These results confirm that a history of physical abuse and suicidal ideation are the only statistically significant predictors of sexual abuse/attack status for female BSPs. Classification was better than chance with 32.9% of the sexually abused/attacked and 93.9% of those who denied abuse/attack correctly predicted for an overall success rate of 82.1%.

# Logistic Regression Analysis for Males

A direct logistic regression analysis was performed with male subjects on sexual abuse/attack as the outcome with six psychosocial predictors: histories of physical abuse, psychological problems, psychological treatment, psychiatric medicine, psychiatric hospitalization, and suicidal ideation. Three cases with missing values were deleted from the analysis leaving 151 cases.

A test of the full model with all six predictors against a constant only model was statistically significant,  $X^2(6, N=151)=29.160, p<0.001$ , indicating that the predictors, as a set, reliably distinguished between male BSPs with and without a history of sexual abuse/attack. Table 5 shows regression coefficients, Wald statistics, and odds ratios for each of the six predictors. The Wald criterion indicates that only psychiatric hospitalization significantly predicted sexual abuse/attack status.

TABLE 5 Logistic Regression Results for Males

						95% Confidence interval for odds ratio		
	B	S.E.	- Wald X² test	Şig.	Odds ratio	Lower	Upper	
History of Psychiatric Hospitalization	1.979	.947	4.367	.037	7.233	1.131	. 46.267	
History of Physical Abuse	1.400	1.040	1.812	.178	4.056	.528	31,150	
History of Psychological Treatment	1.367	1.102	1.540	.215	3.925	.453	34.023	
History of Suicidal Ideation	.213	1.072	.040	.842	1.238	151	-10.117	
History of Psychological Problems	-16.732	3612.507	.000	.996	.000	.000		
History of Psychiatric Medication	-18,195	3433.785	000.	996	.000	.000		
(Constant)	-2.915	.832	12.261	.000	.054			

A follow-up stepwise logistic regression was conducted with psychiatric hospitalization entered in step 1 followed by physical abuse, psychological treatment, suicidal ideation, psychological problems, and psychiatric medication entered in step 2. As expected, the first step was significant,  $X^2(5, N = 150) = 11.775$ , p = .001, against the model. Adding the second block also significantly improved prediction,  $X^2(5, N = 150) = 16.915$ , p = .005, indicating that psychiatric hospitalization alone is not the best predictor of sexual abuse/attack status for males.

An additional stepwise logistic regression was performed with psychiatric hospitalization, psychological problems, psychiatric medications, and suicidal ideation entered in step 1 and physical abuse and psychological treatment entered in step 2. The first step was significant,  $X^2(4; N=151)=26.203$ , p<0.001. The second step was not significant  $X^2(2, N=151)=2.953$ . The second step was n

# DISCUSSION

# Prevalence Rates

The results of the present study show that 15.5% of BSPs disclosed a history of sexual abuse/attack (19.3% of females; 5.2% of males) using the PsyBari. These rates are lower than most of the previously reported prevalence rates for BSPs and more consistent with the reported rates of obese, nonbariatric, and general populations (see Table 1).

Comparison with other studies that used BSPs is difficult since most of those studies did not report the details of how sexual abuse/attack was assessed or whether patients were given instructions that might lower or raise their threshold of disclosure. Interestingly, the two studies that reported some of this information (Oppong et al., 2006; Wildes et al., 2008) informed patients that disclosure would not lead to surgical rejection, and they reported some of the highest published sexual abuse/attack rates using BSPs (26.7% and 31% respectively).

Since Oppong and colleagues (2006), Wildes and colleagues (2008), and the PsyBari all informed patients that disclosure would not lead to surgical rejection but received different disclosure rates, something more subtle within the methodology may have led to these differences. For example, the manner in which the instructions were presented to the patients may have influenced their decision to disclose or withhold a history of sexual abuse/attack. The PsyBari's instructions are read by the patient while they

take the test and do not specifically address sexual abuse/attack. Oppong and colleagues (2006) and Wildes and colleagues (2008) gave no details about the instructions they used or how these instructions were presented to the patients, although they may have presented them verbally during rapport building face-to-face interviews and thereby received higher disclosure rates.

Although it is probable that patients' willingness to disclose a history of sexual abuse/attack is affected by the assessment technique used, the patients' assumptions about disclosure, the information they are given about disclosure, and the rapport that has been established with the interviewer, the possibility does exist that the different prevalence rates elicited in these studies is due to "true" differences in the samples' of sexual abuse/attack prevalence rates. For example, these studies may have used samples from different socioeconomic classes walchional reporting on socioeconomic variables would be helpful in future studies.

It is interesting to note that in the current study, 12 female patients did not answer the item on sexual abuse/attack and were not included in the analyses. If all 12 patients were sexually abused/attacked, the overall prevalence rate for this study would rise from 15.5% to 17.26% and the rate for women would rise from 19.3% to 21.57%. This would be a dramatic change and highlights how small numbers of patients can change prevalence rates dramatically. In spite of this, it is not necessarily the case that all 12 patients were sexually abused/attacked. As described in the validation study (Mahony, 2010b), when patients were queried about items left blank; they usually responded that they did so because the item did not apply to them.

Overall, these results indicate that the PsyBari's written instructions informing patients that disclosure will not lead to surgical rejection is not sufficient to elicit disclosure rates equal to those obtained by other studies. This indicates that BSPs are prone to underdisclose a history of sexual abuse/attack using the PsyBari. Future versions of the PsyBari may obtain higher disclosure rates by using specific instructions about disclosing a history of sexual abuse/attack instead of the broad instructions that it now includes. Higher disclosure rates may also be obtained if verbal reassurances are given from the surgical staff and the psychologist about the intent of the psychological evaluation so that patients feel more comfortable disclosing a history of sexual abuse/attack.

Future research in this area should report details about instructions patients are given regarding disclosure and the conditions in which the instructions are presented so that we can have a better understanding of the patients' assumptions about disclosure. Additionally, studies are needed to clarify the assumptions that BSPs have regarding sexual abuse/attack disclosure and to compare and contrast assessment techniques. In this way, we could determine which assessment techniques are most effective in getting BSPs to disclose a history of sexual abuse/attack.

Clinically, BSPs who disclose a history of abuse/attack should be counseled on how this could affect their postsurgical functioning. Most important, they should be informed that they are likely to receive increased sexual attention as they lose weight, and this has the potential to trigger traumatic memories. Patients should be made aware of all postsurgical mental health treatment options available so they are knowledgeable about their choices if they do experience any difficulties.

# Further Analyses

Chi-square analyses confirmed that male and female BSPs who disclosed a history of sexual abuse/attack were more likely than those that did not disclose a history of sexual abuse/attack to also disclose histories of physical abuse, psychological problems, psychological treatment, psychiatric treatment, and psychiatric hospitalization. Additionally, females that disclosed a history of sexual abuse/attack; but not males, were more likely to also disclose a history of suicidal ideation (Table 3).

These results add depth to our understanding of sexual abuse/attack histories in BSPs in two ways. They present the possibility that sexual abuse/attack is best viewed as a part of a cluster of variables instead of an isolated variable, and they expand our understanding of gender differences within BSPs. Since disclosure of a history of sexual abuse/attack is likely to be accompanied by disclosure of exposure to other psychological trauma, psychological problems, and/or mental health treatment efforts, it may be more meaningful to create a composite variable that includes all of the above variables. The benefits of a composite variable would be twofold. It would be clinically meaningful to combine these variables since they are all concerns in presurgical evaluations and, since sexual abuse/attack is inherently difficult to assess, a composite variable would increase psychometric reliability. Future research efforts looking for variables that predict postsurgical outcomes should consider creating composite variables and determine if they are more useful than a single variable, such as a history of sexual abuse/attack.

The chi-square results also show that among the BSPs that disclosed sexual abuse/attack, females are more likely than males to also disclose a history of suicidal ideation. This is an important finding, especially given the fact that female BSPs under age 23 are at risk for postsurgical suicide (Omalu et al., 2007). It raises the possibility that female BSPs who disclose a history of sexual abuse/attack are also at risk for postsurgical suicidal behavior and it adds to our understanding of possible etiologies of these suicides. Clinicians should conduct additional assessments focusing on these issues with female patients that disclose a history of sexual abuse/attack and take appropriate measures.

The logistic regression results indicate that for females, a history of physical abuse and suicidal ideation reliably predicted sexual abuse/attack status. For males, the most reliable prediction of sexual abuse/attack status resulted from the combination of psychological problems, psychiatric medication, psychiatric hospitalization, and suicidal ideation. These results further confirm that an isolated assessment of sexual abuse/attack may not be the best approach during presurgical interviews and adds more evidence of gender differences. These results also present the possibility of using other variables to predict the likelihood that a patient is not disclosing a history of sexual abuse/attack when in fact, he or she has a history of sexual abuse/attack.

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# AUTHOR NOTE

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